IMAGE

NO. 53

SEPTEMBER, 1957

JOURNAL OF PHOTOGRAPHY AND MOTION PICTURES
OF THE GEORGE EASTMAN HOUSE

THE CHALLENGE OF PHOTOJOURNALISM

An appraisal of current photojournalism

THE WOODBURYTYPE

The world's most beautiful photographic reproduction process

IMAGE

VOL. 6, NO. 7
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JOURNAL OF PHOTOGRAPHY AND MOTION PICTURES
OF THE GEORGE EASTMAN HOUSE

IMAGE STAFF

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BEAUMONT NEWHALL, *Curator*

JAMES CARD, *Curator of Motion Pictures*

GEORGE PRATT, *Asst. to Curator of Motion Pictures*

GERDA PETERICH, *Research Assistant*

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THE SIGNIFICANCE OF NEWS PHOTOGRAPHY

EDITORIAL

Hundreds of thousands of words described the death of the Andrea Doria. Some of our best writers outdid themselves.

None carried the impact or told the story of the vessel's last minutes nearly so well as the Pulitzer Prize-winning news pictures of her end.

Iwo Jima will remain with Saratoga, Gettysburg, the Argonne indelible in American memory. Yet it was Joe Rosenthal with his camera who stamped it there with a permanency few, if any, writers could have achieved.

Great pictures all. And a list of such could be endless! Pictures that make news writers proud of their fellow craftsmen, the photographers. Proud and sometimes a little envious of their sure artistry, their unfailing production of the truth in ways that please the eye, or satisfy the curiosity, or start the tear, or show the tragedy.

The importance and significance of news photography is great and growing greater.

At the same time, new and continuing competitive challenges face the news photographer and his editor. And new techniques must be mastered by both as color printing continues its inevitable and welcome spread.

Without the news cameraman, the modern newspaper, for one, would be doing only part of its job, half-serving its readers. They have come to expect an increasingly intelligent use of the photographer's production by his editors. They have every right to expect it. They not only want things explained to them; they want things SHOWN to them. Writers can explain, and well. Photographers can SHOW, often better than writers. Together, their wedded efforts keep us in business, and keep our product in demand.

PAUL MILLER
President, The Gannett Newspapers
Trustee, George Eastman House

The Challenge of Photojournalism

Integration between Editor and Photographer will produce a type of Photojournalism necessary to understand the world in which we live

by Vincent S. Jones, *Executive Editor, The Gannett Newspapers*

PHOTO JOURNALISM APPEARS TO BE GEARED for a sweeping advance on all fronts.

The public is ready for it—has been ready, in fact, for a long time, as the sensationally swift acceptance of television proves.

Equipment and materials are available in lavish quantity and variety. And while we long have had better equipment than actual usage might have indicated, it now is possible to say that any picture worth taking can be taken—even in color.

A new breed of news photographer has come to the fore—steeped in technical lore, imaginative and enterprising, and banded together in a devoted program of self-education.

Finally, there are the editors and publishers, the men who can bring all of these elements together and who, finally, are displaying a lively appreciation of the role of photography in reporting the news.

Since it first gained a foothold in newspapers, photography has suffered from a long list of serious handicaps. These include:

—The cult of the single picture.

—A secondary role in story-telling, whereby most news pictures were designed to accompany words.

—Overemphasis on speed and immediacy at the expense of pictorial values and technical quality.

—The static, inelastic format of most newspaper pages.

—Rigid, cliché notions of what constitutes a news picture.

—The dominance of the "word-men" in the editorial hierarchy.

One of the dismaying things about newspapers is the way that so much of the technology that evolved the world's first mass production miracle so often seems to be running in reverse gear. Today's costly, scarce newsprint is vastly inferior as a printing surface. While movie screens grow wider, newspaper columns shrink; as the TV image becomes larger and sharper, many editors continue to think of a three-column cut (about five inches wide) as "big display," and to ignore the taste for seeing pictures in sequence which has been developed by half a century of movie-going and a decade of watching television.

Even the major improvements have brought, at least temporarily, some devastating downgrading of quality. Facsimile transmission of photographs and electronic engraving have made it possible for hundreds of small newspapers to use pictures freely, but while these processes undoubtedly will be improved quickly, their present stage of development makes really good printing difficult.

While millions of dollars are being invested in color printing, literally nothing has been done about getting decent reproduction from plain

old black and white – a feat well within the capabilities of even a mediocre organization. Some of the zeal which has broken down the inter-craft barriers on newspapers facing the supreme challenge of color printing might well be applied to routine black-and-white operations. On many newspapers a combination of half-baked ideas, indifferent camera work, uninspired selection, cropping and scaling have presented engravers and pressmen with problems either insoluble in themselves or under conditions which do not inspire miracles.

Editors traditionally have blamed the photographers for the poor pictures that disfigure their pages. While the photographers have their share of gold-brickers and incompetents, it is relatively small, for a photographer's mistakes are not easily disguised. Then, too, photographers often have been indifferent salesmen for their own wares, being content to follow orders, however stupid, and to turn in a print without making constructive suggestions as to how it might be used to best advantage.

Editors must accept the responsibility for failing to invest enough photographic staff time on assignments. If a reporter has to sit through an entire meeting to get the one bit of action or quote that makes a story, why shouldn't the photographer have the same opportunity? A meeting cannot be "covered" photographically by hustling a handful of principals out into the hall for a swiftly-arranged group shot.

Editors are learning how to blend words and pictures into a story-telling team. This comes from a realization that neither words nor pictures can stand alone. *Life* and *Look*, which started out as predominantly picture magazines, gradually have put more and more words into their formulae. Other publications, like the *Saturday Evening Post* and *Newsweek*, have put increasing emphasis upon creative photography. *Life*, of course, was an outgrowth of *Time's* experiments with pictures, and *Time* continues to handle pictures imaginatively.

Newspapers are breaking away from the old custom of making up picture pages based upon a variety of subjects. Pictures now are printed along with the stories they are supposed to illus-

Newspapers have been able to reproduce photographs for 75 years, but they were slow to grasp the possibilities of pictorial reporting. A scene in Shantytown, New York. Facsimile reproduction from the New York Daily Graphic, of March 4, 1880.

Even 100 years ago it was possible to take a good "news" picture, but newspapers had no way to reproduce them. Ambrotype in the collection of the Waterbury Companies, Waterbury, Conn. Date around 1860.

trate and picture pages tend to be devoted to a single theme or subject.

Editors are rediscovering the tremendous potentialities in such simple, basic techniques as the before-and-after, the new-and-old, now-and-then pairings. When President Eisenhower suffered a heart attack, millions of words were written about his condition, but the most effective report was to print, side by side, pictures taken 39 days apart – the last one before his illness, and one taken at his first press conference in the hospital.

New equipment makes the sequence of three or more pictures closely following action a powerful weapon, although this approach remains a costly, film-consuming gamble.

Belatedly, there is renewed interest in captions that do more than barely identify locale and personnel, captions that turn the eye back to the picture again and again and help the reader to catch its full significance.

Most heartening of all is the way that photographers have organized their own drive to educate their colleagues and to attack problems of censorship and cooperation common to the whole profession.

Perhaps the most serious single problem is the secondary position accorded to photography by most editors—an attitude familiar to those who know how long it has taken photography to attain more than stepsister status among the arts. The first news pictures were used as aids to the artists whose drawings were the only illustrations that newspapers could print. But even when photo-engraving came into use newspapers were slow to use pictures, because the men in charge had been reared on a diet of words.

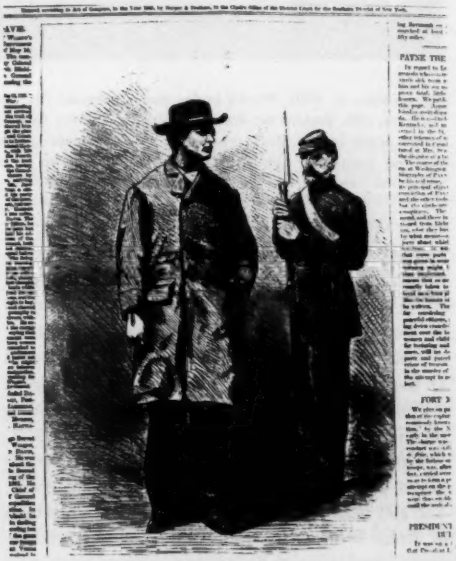
When pictures did break into the news columns, they were used sparingly and grudgingly. Their power to present an exact likeness was obvious, but the same men who created a vivid school of descriptive writing clung to formal, stilted photographs. The candid camera craze went to the opposite extreme. The present tendency is to strive for pictures which present a man fairly, and in the framework of his occupation or the reasons why he happens to be in the news at the moment.

Somehow or other the quaint notion grew that one picture was enough to tell a story. Sometimes it could, but the number of truly great single shot news masterpieces is rare. The shooting of Mayor Gaynor of New York (caught by a photographer who was late for the assignment), the destruction of the Zeppelin at Lakehurst (the most completely photographed disaster in history), the flag-raising at Iwo Jima are examples of news events covered magnificently in single, gripping photographs. But in pursuit of this virtually unattainable Holy Grail, editors regularly discarded combinations and multiple picture layouts which could have done the job.

Although the telegraph long ago made instantaneous world-wide publication of words possible, it was not until 20 years ago that pictures could be sent over the wires. This inevitable time lag operated to the great disadvantage of the news picture, since even a day's delay spoiled its freshness and put it out of tune with a publishing philosophy based upon immediacy.

Radio and Television long ago broke the newspaper monopoly on speedy presentation of the news and, in doing so, conferred a favor upon both publishers and readers. Now it has become possible to concentrate upon an orderly presentation of all the news of the last 24 hours, with great gains in perspective, balance, and completeness. And today's pictures move by wire along with the words, for simultaneous publication.

The cult of the single picture spawned another curious technique—the full page of pictures, usually on a variety of subjects. While this big optical punch attracted readers and created an interest in pictures, the resultant melange of



The Civil War and its personnel were photographed extensively, but the pictures got into print only as guides for the illustrators. Photograph by Alexander Gardner of Lewis Payne, member of the conspiracy which assassinated President Lincoln, and wood-engraving made from it, in Harpers' Weekly, May 27, 1865.

The October 5, 1952, World Series game between the Yankees and the Dodgers, with Umpire Art Passarella calling Johnny Sain out at first base in the tenth inning. This proof that umpires sometimes are blind was possible because a sequence of pictures was taken of this play, from which the key shot was selected. Courtesy Associated Press

images was both inartistic and unsatisfactory. Today's picture magazines and newspaper magazine supplements are built upon a logical presentation of related material, supported by or combined with carefully prepared text, and an increasing number of newspapers committed to publishing a full page of pictures daily is turning to the one-subject type.

Deadlines are a powerful spur to the newspaper photographer, who has to get his picture, and get it in time for the next edition. The best of them work with incredible speed and efficiency and often their pictures are processed in a matter of minutes. The hazards are obvious: Hit-and-run grab shots may illustrate the story but not illuminate it; hasty processing is at the expense of print quality.

Newspaper photographers have clung to the press camera for obvious reasons. It is rugged, it produces a large negative in a form that lends itself to individual processing, and, with modern portable flash equipment, it is almost foolproof when it comes to getting some kind of a printable picture. The phenomenal growth of the miniature camera has brought the need for more critical handling and, above all, for meticulous processing. The opportunities inherent in fast lenses, great depth of field, and multiple exposures also carry with them the threat of total failure. Full exploitation of the superb tools and equipment now available depends upon editors who will invest staff time and chance an occasional failure to encourage their photographers to pioneer in new fields.

Until recently the newspaper format has been static, its stark ups-and-downs forcing all pic-

FLAG RAISING AT IWO JIMA, 1945, by Joe Rosenthal. An outstanding example of a single picture which tells a story.

tures into simple squares and rectangles. Not only have the dynamics of circles, ovals and white space been ignored, but the splendid dimensions of the newspaper page itself—nearly 300 square inches—rarely have been exploited. Recent developments in wide angle lenses and panorama cameras have encouraged some newspapers to experiment with pictures running the full depth of a page (around 22 inches) or even the massive double truck (two facing pages) which produces a veritable Cinemascope 55 of printed display.

A further complication comes from the positioning of advertisements, which often force editors to squeeze a normal 8 x 10 print into a tiny two-column cut (roughly 3½ x 3), a reduction which few pictures survive in coarse-screen photo engraving on newsprint.

Over the years the average newspaper picture has tended heavily on the side of chronicling disasters of various kinds—the battered automobiles, the charred ruins, the ruptured safe, the broken body, and grief-stricken relatives. This is closely allied to the outworn theory that news, to be interesting, must constitute very bad news to the principal characters of the story, or that it should emphasize the freakish, the bizarre, the abnormal.

Good newspapering long ago began to emphasize the positive and to hunt for constructive, even inspirational, copy. But the old philosophy survives in an editorial antipathy to pleasant pictures (with the notable exception of beautiful girls!) and a stolid refusal to recognize that people like to look at "pretty" pictures (the kind they take themselves).

In one important respect, however, newspaper editors and photographers never have forgotten the most important thing of all—that people are interested primarily in other people. Rare is the news picture that does not include at least one human figure, if only by implication. Ask a commercial photographer to take a picture of a public building. He'll wait until the street is

Left, a photograph of President Eisenhower taken less than 24 hours before he was stricken in September of 1955. Right, the president in his wheelchair, taken at the first picture session following his heart attack, 39 days later. The thousands of words written about the President's illness did not tell the story as effectively as this simple "before and after" pairing. Courtesy Associated Press

deserted and produce a literally accurate representation that has no more connection with modern life than the ruins of Angkor Wat. The news photographer instinctively gets people into all of his pictures.

In the last analysis, the editors, like the voters, have been getting just about what they deserve. It is a rare newspaper executive who cannot go out and get the facts for any kind of a news story, or who cannot edit or rewrite a badly written piece into acceptable prose. Even rarer, however, is the editor to whom the darkroom is not a mysterious cavern where black rites are practiced by an outlandish tribe of suspicious characters who speak—if at all—a language from another world.

It is not necessary for an editor to be able to take and process pictures, but he ought to know enough about the process to understand its limitations and its potentialities; to pass judgment as accurately upon the execution of a picture assignment as he does upon a column or a page of type.

When the picture magazines were started, they leaned too heavily upon the camera. The editors soon learned that they were not holding their readers; that they were as far off base as the Neanderthal types who printed nothing but words. Painful readjustments produced a formula in which words AND pictures worked together and, whenever the ingredients were blended skillfully, made an unbeatable journalistic team.

A similar readjustment is going on in the newspaper world. Editors no longer regard pictures as a necessary evil and photographers are emerging from their clannish, frustrated existence into something approaching real partnership. From this overdue artistic integration will come an operating technique that will produce the type of journalism essential to understanding the world we live in.

The Rochester Photo Conference

by J. Winton Lemen

George Eastman House is proud to co-sponsor, with the National Press Photographers Association, the Second Rochester Photo Conference, which will unite photographers, editors and production men. The chairman of the conference outlines the aims and accomplishments of the first conference, of which he was also chairman.

THE ROCHESTER PHOTO CONFERENCE, jointly sponsored by the George Eastman House and the National Press Photographers Association, brings together on September 8-13 leading newspaper and magazine executives for a study of present and future problems incident to the conception, production, preparation and reproduction of editorial photo illustrations. It is intended that the Conference will have special interest for all those responsible for staff training, for assignment, for taking photographs, for editing them and for mechanically reproducing them on newsprint and in magazines.

This is the second conference co-sponsored by George Eastman House and the National Press Photographers Association. The first was held four years ago.

Eastman House is an educational institution and therefore it is quite logical that it should welcome and assist the NPPA, a professional organization of photojournalists, in conducting a conference aimed at the improvement of photo reporting in the press.

The National Press Photographers Association includes education as one of its keystone principles. From its very beginning nearly twelve years ago, NPPA has published a monthly journal to spread information of interest to news photographers. NPPA also embraced and assisted the several already going "News Photo Short Courses" sponsored by a few universities —but NPPA thought there should be more of these 3-day professional education meetings so that they would be more easily accessible to news photographers in all parts of the country. Other universities were encouraged to undertake short courses, but they were hesitant to do so without the direct backing and participation of NPPA. It was inevitable that NPPA had to assume the responsibility of directing and promoting a number of short courses in various parts of the United States. Local universities lent their facilities and services as their contribution. The Encyclopaedia Britannica became interested in NPPA's educational program and provided both financial and administrative assistance.

But these short courses were aimed principally at improving the technical competence of news photographers. NPPA foresaw an additional opportunity to serve the press by bringing together the entire team—the editors who plan and control the use of photo illustrations, the photographers who execute these assignments, and finally the production departments who reproduce and finally print the publication. Seldom was there opportunity for these three groups to meet together to study and discuss the entire problem and to understand mutual desires, functions and problems.

This prompted the first Rochester Photo Conference. Editors, photographers and production supervisors—all management level—attended. There were more editors than photographers—just what NPPA hoped for. The subjects were largely discussed in principles rather than in details.

The official *Digest* of the first Rochester Photo Conference, a letter-size, 92-page, illustrated book, was sent to every participating member for the record. It documents the wide variety of subjects which were covered and the outstanding talks made by leaders of the profession. The following selected quotations reprinted from it, indicate the spirit, as well as content, of the conference.

Keynote address: "No photo is a good photo unless it is still a good photo when it reaches the eyes and the minds of the readers. Besides photographers and editors, the skills of engravers, compositors, stereotypers, and the pressmen must be added. . . . It is a team job to bring a good photograph to a reader. . . ." (William P. Stevens, Assistant Executive Editor, the Minneapolis Star and Journal.)

Problems facing journalism today: "We need the spirit of experimentation, open-mindedness,

Big Bertha and other special cameras, demonstrated by John J. Reidy, Chief Photographer, New York Mirror. Photograph by Joe Clark, official photographer of the Rochester Photo Conference.

and pioneering. Magazines, 25-30 years ago, were media of entertainment or feature interest, while newspapers were considered media of information. Today, the lines have crossed. . . . We must do a job of greater challenge, experiment with new ideas, and change as times change. . . ." (Louis B. Seltzer, Editor of the Cleveland Press.)

Captions: "A wordless picture tells only what is familiar to the reader. If the picture isn't fully clear, you must let your reader in on the secret, and that calls for a caption. . . . Caption writing shouldn't be a chore, but a job that interests a fellow who is writing it." (Wilson Hicks, formerly Executive Editor of Life Magazine.)

The place of color: "You can make just as dull a picture in color as you can in black and white, if not used with talent. It does bring a wider area of subject interest. American people are on the greatest binge of self-improvement and culture and color fits in with this trend." (Edward K. Thompson, Managing Editor, Life.)

Research in graphic arts: ". . . Our processes and our techniques are not sufficiently modernized to obtain the quality we desire, yet maintain the quantity of production necessary. The craftsman should join hands with the scientist to get better control over his product and enable him to survive the competition of other media." (C. M. Flint, Research Director, American Newspaper Publishers Association.)

The perfect picture editor: "He should be a good news man, with a sense of communication as opposed to ART . . . He should not be a photographer . . . [but] an able coordinator . . . [with] a knowledge of good pictures . . . a college background . . . [and] Qualification 'X' . . . the ability to inspire and stimulate a photographer." (Wilson Hicks.)

Layout and cropping: "Layout is a personal matter. . . . The needs of Life magazine set the early style. It is a fast-closing book, so we had to have simple layouts for fast work. Now we are trying for more variety. We start with a smash picture to get the reader on the hook. The design is spread around important pictures in each unit. It is rounded out with other smaller pictures where they are important to the story. A closing page should sum up a story, and make a good display." (Charles Tudor, Art Director, Life.)

Training: ". . . We might substitute the name 'camera reporter' for the old phrase "press photographer.' . . . We need more than the mechanics of picture taking. . . . The skills of a reporter must also be included in the training of a photographer. He must learn to get more editorial content, story telling and imagination into his pictures." (William C. Eckenberg, Staff Photographer, New York Times.)

A look into the future: "The cameraman will have his own frequency and transmit, without wires, what he shoots. The image will go directly to his home office on a monitor screen and, with a flick of the switch, go directly into Wirephoto and across the nation simultaneously." (Murray L. Becker, Chief Photographer, the Associated Press.)

It is hoped that the second Rochester Photo Conference will be equally stimulating and successful in exploring the whole field of photojournalism.

The Development of Color Photography in Newspapers

By Robert H. Dumke
THE MILWAUKEE JOURNAL

As short a time as 12 years ago, only a handful of U. S. and Canadian newspapers could print full color in their pages.

Today, 288 newspapers are printing full color—and with considerably better quality than could be obtained after World War II.

In the daily newspaper, where time is all-important, a full color picture can now be taken in the morning, processed to run in full color the same day and be delivered to hundreds of thousands of subscribers. Contrast this with the days of painstaking work put into full color reproduction for most other printing processes!

A great deal of trial and error was part and parcel of this remarkable growth. Tests were made with carbro prints, dye transfer prints, color analyzers, color inks, filters, screen angles, color corrections, paper characteristics, one-shot cameras, transparencies, lighting, densitometers, masking and balance factors.

Actually, color in newspapers is not exactly new. One of the first known uses of R O P color in a daily paper was made by The Milwaukee Journal on January 5, 1891. This was simply a series of red and blue horizontal bars printed on the front page to give an American flag effect to the news story of George W. Peck's inauguration as governor of Wisconsin.

(Incidentally, there's a term you're seeing a lot of these days—"R O P Color." This means "Run of Paper" color—printed by regular newspaper presses on standard newspaper stock.)

Going back even further than 1900, the London Illustrated News used color in one of its weekly issues on December 22, 1855, according to the historical records of the National Press Photographers Association. This weekly is still being published in England today.

The Christmas supplement in 1855 contained the very first newspaper color, according to the NPPA, and also included line drawing reproductions of Roger Fenton's photographs of the Crimean War of 1854-'56.

Comics, rotogravure and magazine sections kept the idea of color alive for many years after the turn of the century, with newspapers content to turn their progress into the channels of faster, more efficient production of bigger black and white sections.

In the meantime, the world was becoming more colorful. As automobiles, homes, appliances and product packaging went to rainbow hues, newspapers began to take a careful look at the possibilities of color reproduction.

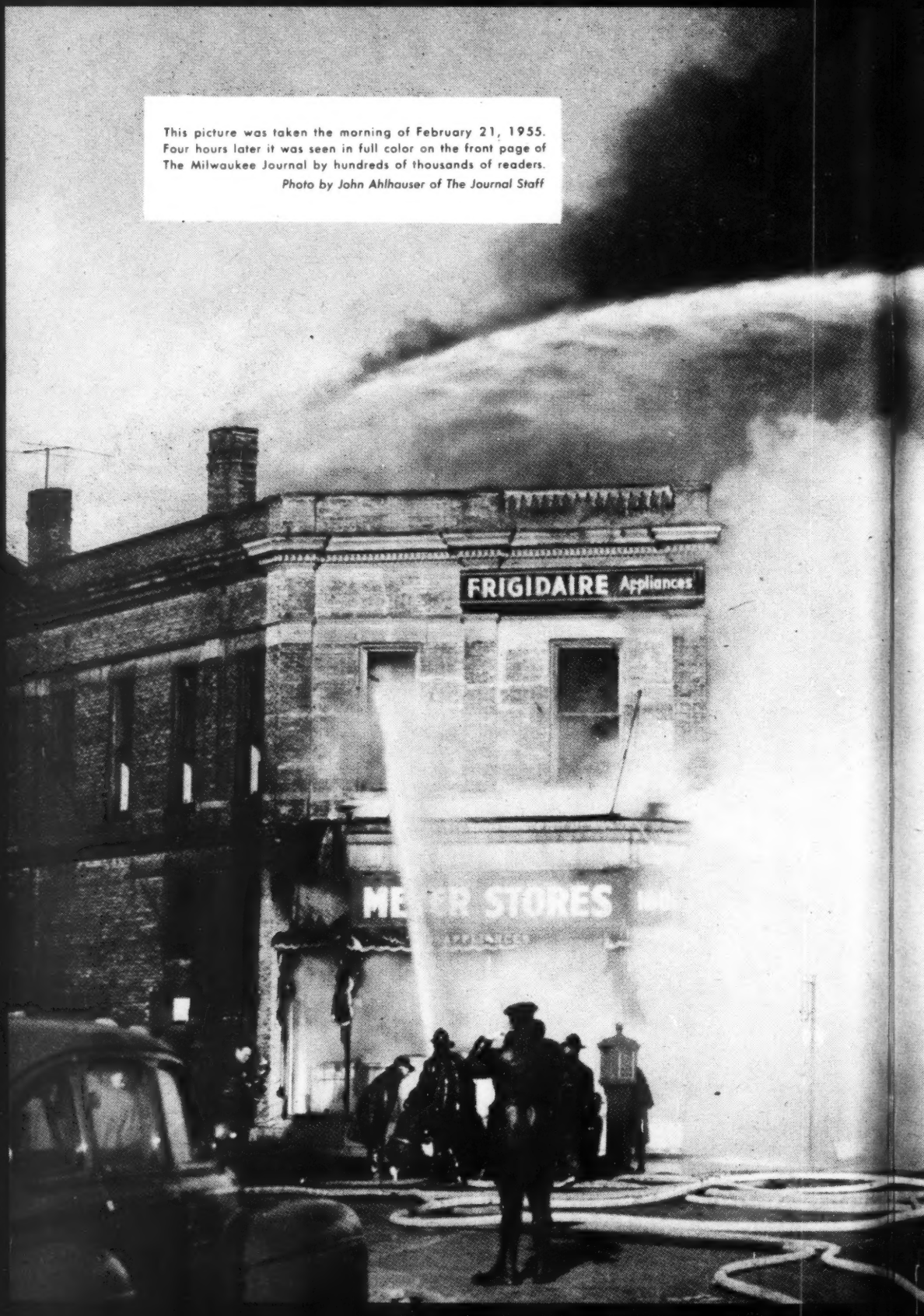
The obstacles were many. First, there was the time element. It had to be done fast. Secondly, it had to be reproduced on newsprint stock, which was far from ideal.

To overcome these obstacles, The Milwaukee Journal, for example, formed a color production team during World War II. This team consisted of the art director, chief photographer, engraving, stereotyping, composing and pressroom foremen under a coaching staff with a knowledge of all departments of the paper. Each member helped analyze the problems of the others.

In other newspapers across the land, similar things were taking place. Very early in the game it became obvious that the taking of a photograph on transparency materials, and then copying or re-photographing the transparency was not the proper approach. It was found that a good deal of time could be saved if the transparency were masked and then separation negatives could be made in the Photo departments. In this way a picture could be run in as little time as eight and one-half hours after the picture was taken. While this was the fastest that any color had been reproduced up to that time, the quality left much to be desired. It was learned at this time that no colors should be completely blocked out, but instead, engravings should carry tone over-all.

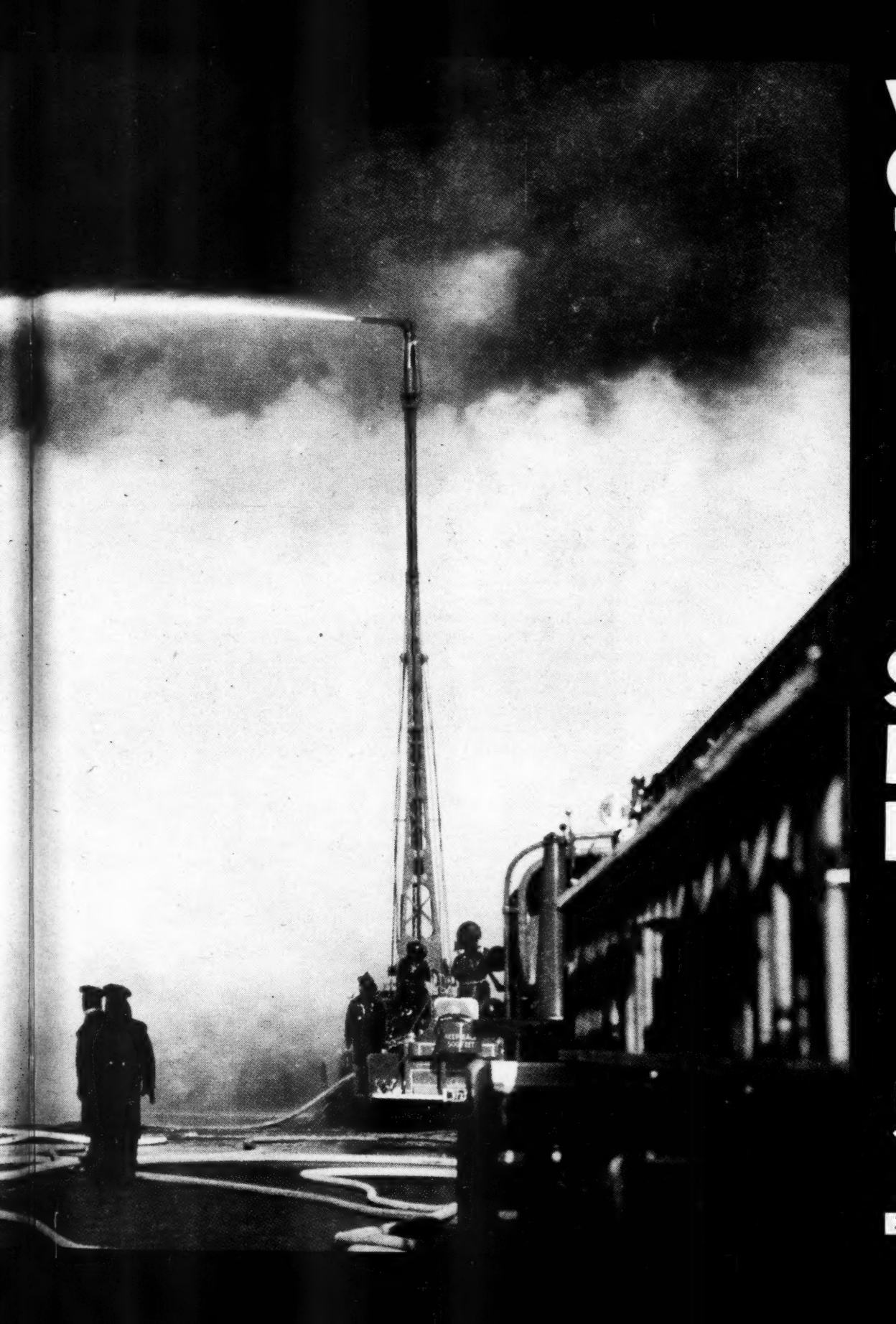
Further, it was determined that full process color using yellow, red and blue plates only would fulfill most of a newspaper's needs. And on the big advantage side of three-color work was the extreme flexibility, together with a saving of time and material, with reproductions that didn't require black plates.

At The Journal, the purchase of a Curtis "Color Analyst" was an important step forward in the reproduction of color photographs. Even the results of the first experiments utilizing the principle of the analyst were gratifying. These took place in 1949. On the basis of these findings, specifications were drawn up and construction of the first Color Analyst, specifically designed for newspapers, was underway in 1950.



This picture was taken the morning of February 21, 1955. Four hours later it was seen in full color on the front page of The Milwaukee Journal by hundreds of thousands of readers.

Photo by John Ahlhauser of The Journal Staff



Basically, the Color Analyst is an optical device employing lights, filters and mirrors to present a full color image from three black-and-white separation prints or proofs, for the purpose of visually determining if they are color correct for printing purposes.

It employs light, color filters, pellicle mirrors and front surfaced mirrors to produce this image. The red copy is mounted in the center position, the blue copy in the right position and the yellow copy in the left position. Eight 100-watt lights in precisely shaped reflectors furnish light for each copy position.

A green filter is immediately ahead of the red printer position and the red printer image is viewed through this filter and the three pellicle mirrors. The red filter is mounted at the right and the blue violet filter is mounted to the left.

The three color images are combined in register by the analyst to produce the full color image.

If the prints are in balance, the Color Analyst image may indicate a need for some local correction to emphasize or color correct a portion of the color illustration. The artist can retouch any one or all of the bromide prints to obtain the desired results and check the result in the Analyst before sending the prints to the engraver.

Separation negatives can be made from dye prints, colored art, full color reproductions of fine screen plates, and directly from the subject as it is photographed, using either the direct separation method or the one-shot camera.

And here we come to one of the most important advances in color photography for newspapers —the camera that takes three color separation negatives in a single shot.

To produce one-shot separation prints with the necessary balance, newspapers found that controls had to be established. For example, each batch of film, masking material, and paper used for color had to be tested to determine its development time, and exposure characteristics. Recorded findings could then be referred to whenever this material was used.

At The Journal, Kodak Super XX Pan Film is used for normal operation and SO1177 film where maximum speed is essential. The speed of this film plus the fact that it can be developed in from five to ten minutes makes three black and white separation negatives available in a matter of minutes rather than hours or days.

To insure uniform results, the one-shot separation negatives are tray developed with careful control of time and temperature and are fixed, washed and dried together. After drying, the negatives are checked on a densitometer to determine if they are correctly balanced. The densitometer reading also determines the exposure time for the masks used to color correct the negative.

After all the masks are printed, each mask is then attached to its respective negative in register, placed in the enlarger and the paper print exposures are made. At this time an important color correcting compensation is made.

By experimentation, it was found that a neutral gray scale could be printed with a 100% value blue plate, an 80% value red plate and a 70% value yellow plate. This plate balance would print clean true hues, good blacks, and in highlight areas would print good whites with all colors printing. The black and white prints are made with these values. These prints are developed, short-stopped, fixed and washed at the same time. A waterproof resisto paper is used for the prints and register is held. When dry, the paper prints are placed in the Analyst for a final check before release to the Art department.

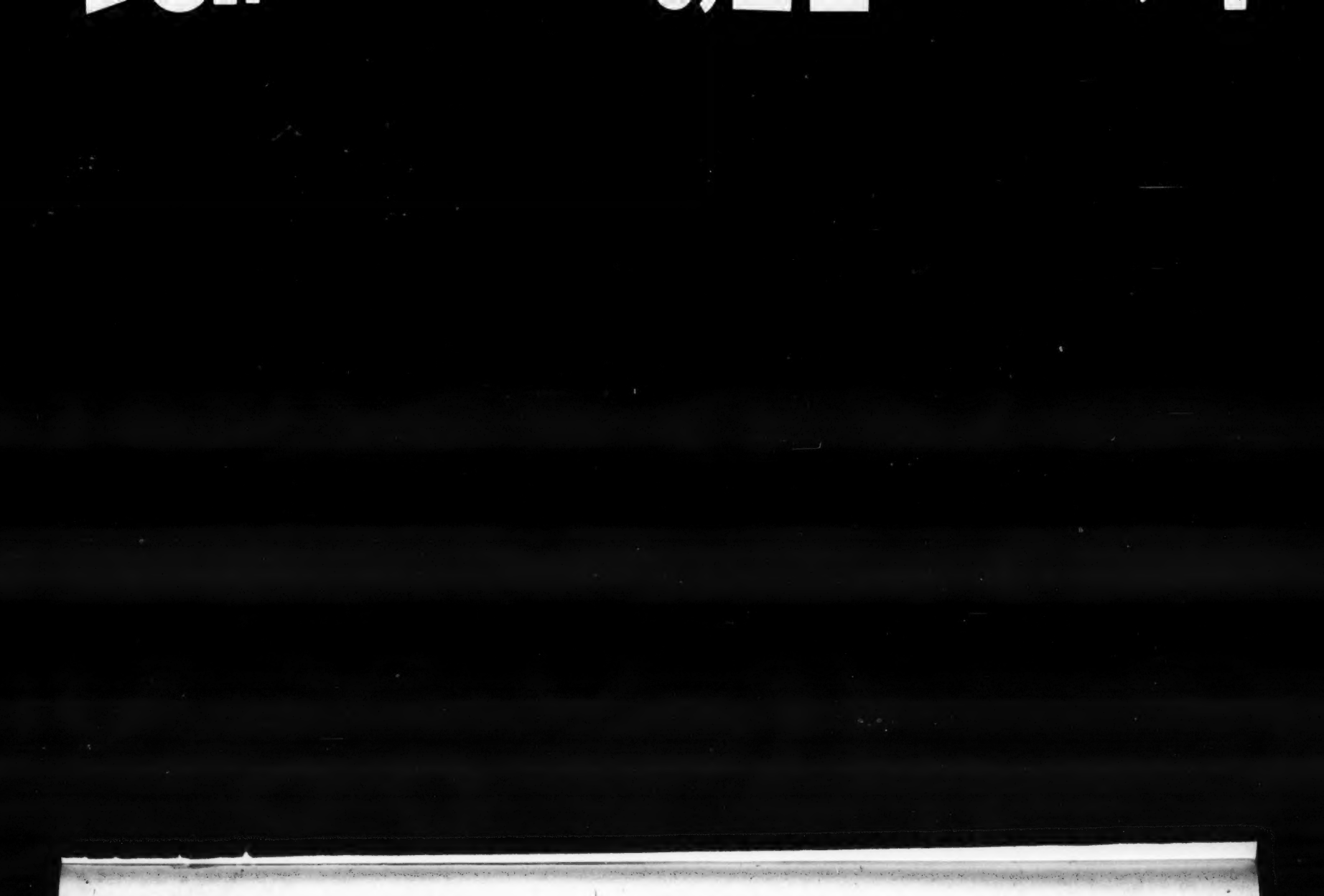
Here, the artist registers the sets of bromide prints separately, and if layouts are necessary, the sets of prints are again registered to conform to this layout. Register marks for the engraving and stereotyping departments are then put on.

A good deal of color comes to a newspaper in the form of transparencies that must be separated. To have a low cost, but highly efficient, method of separating transparencies, a special separation device can be used.

It consists of the following equipment: 1. A constant voltage controlled light source. 2. A filter wheel containing masking filters. 3. A second filter wheel containing color separation filters. 4. A third wheel containing neutral density filters. 5. An accurate timer. 6. A pin registering device to hold transparencies, diffusion material and masks in place. 7. A pressure platen.

Yes, color photography is being developed at a record rate in today's daily newspapers. With constant experimentation and technical advancements, newspapers are keeping pace with the fast-moving world of color.

Today, there are more than 700 U. S. and Canadian newspapers that can print at least one color and black. And through the use of modern equipment and practical experience, photographers across the country are turning out improved qualities of color work for the medium whose very essence is speed—the daily newspaper



The Woodburytype

The Most Beautiful Photographic Reproduction Process Ever Invented

by J. S. Mertle, FRPS, FPSA, SPE

THE GRAPHIC ARTS are witnessing an era of electronic adaptation and improvement of printing surfaces such as never has happened before. In spite of modern technology nothing, so far, has been accomplished in the printing field that even compares with the accuracy and photographic beauty of the Woodburytype. This was a photomechanical process that was introduced in 1864 by Walter Bentley Woodbury and ran its course in thirty years. The process was, in a sense, an early method of photogravure, except that it did not utilize printing ink. But more of this later.

Woodbury[1] was born in 1834 in Manchester, England; he was apprenticed in the Patent Office of his native city in hopes that he might become a civil engineer. Wanderlust took over after his apprenticeship. Inherited probably from his maternal grandfather, the well-known naturalist Walter Bentley, his love of travel, scientific investigation and photography, drove him to the gold fields of Australia in 1852. Here he failed to make a strike and was forced to support himself by working in the Melbourne waterworks in an engineering capacity.

The job afforded considerable leisure, so Woodbury resumed his pursuit of the wet collodion process, and when his government duties came to an abrupt end, he launched out as a professional photographer. This was in 1855. He engaged in this occupation for four years, but not caring much for Australian life, and again feeling the urge of wanderlust, Woodbury embarked on what was planned to be a trip through Java, China, Japan and Manila.

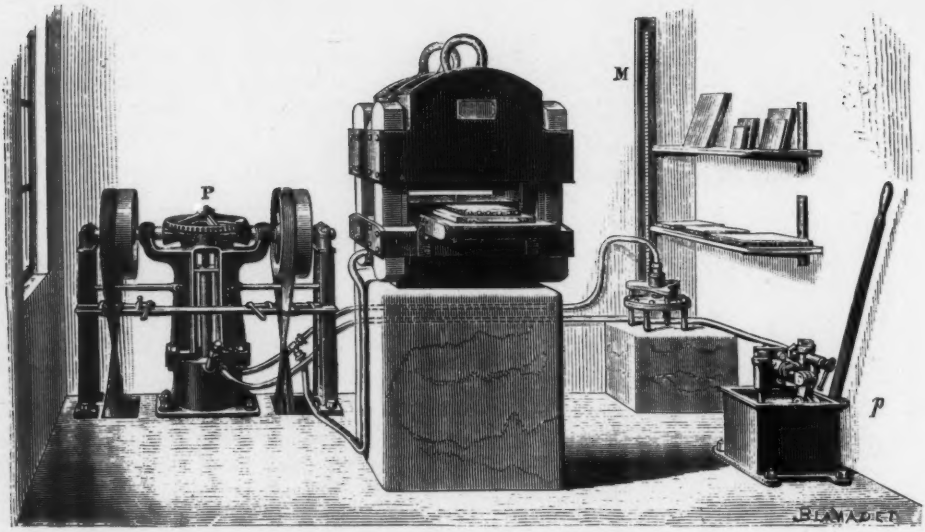
He got no further than Java, the island's tropical scenery aroused his enthusiasm, and a Javanese girl his ambitions to marry. Woodbury's name first became known to the photographic world by the stereoscopic views he made of Java. These were sold for publication by the firm of Negretti and Zambra, manufacturers of the stereoscopic camera with which he photographed.

This encouraged Woodbury to establish a photographic studio in Batavia (1860), where by dint of hard work he managed to attain a small competency. Poor health induced by overexertion in the hot climate forced him to return to his native town of Manchester in 1863.

The germ of his beautiful process had already begun to form in his mind while in Java and on settling in his home town he devoted himself to invention and discovery.

Also called *photoglypty*,[2] the Woodburytype[3] was, as previously mentioned, a photomechanical reproduction of a carbon print that resembled the original so closely that it was frequently mistaken for such. The accuracy of the reproduction dèpends on an interlocking group of properties of gelatin and lead. One of these is the hardening or tanning action of light on bichromated gelatin; another is the fact that dried gelatin is hard enough to indent soft lead under high pressure; another that soft lead under high pressure can be molded according to the slightest change in contour of a relief image; and finally the capacity of pigmented gelatin to conform delicately to a lead mold when pressed against a sheet of paper.

Let's follow the properties during the main steps of the Woodburytype process. A conventional silver negative was placed in contact with the back side of a collodion film supporting a layer of bichromated gelatin. During exposure



An hydraulic Woodburytype Molding Press was capable of exerting five tons per square inch. Woodbury originally claimed that up to twenty molds (matrices) could be made from a single gelatin relief "master," but practical experience soon showed that only about six good matrices could be made from the fragile gelatin image without impairing its delicate relief formation.

the highlights, which hold back most of the light, tan the gelatin to a very little depth whereas the shadow areas, which transmit most of the light, tan the gelatin deeply. The gelatin is "developed" by washing with warm water. The warm water dissolves the untanned gelatin leaving hills and hollows of a relief image which correspond exactly to all the subtle densities of the original negative.

When dried, this gelatin layer (called a "master") was hard enough to indent a sheet of soft lead under pressures in the neighborhood of five tons per square inch. Under this pressure the lead sheet reproduced, in reverse, an exact duplicate of the relief image.

To print from the lead mold, or "matrix," the indented surface was filled with a warm solution of gelatin impregnated with any desired color. Next a sheet of nonabsorbent paper, which had been surfaced on a special machine, was laid on the matrix and pressure applied in a specially designed, hand operated press. No ink was employed, though the colored gelatin was familiarly called "ink," and the "printed impression" was really a cast in gelatin on the surface of the paper. The pigmented gelatin conformed to the slightest change of surface in the mold. The final reproductions are often so faithful to the original degree of surface relief that delicate and pleasing three dimensional or stereoscopic effects are displayed.

Woodburytypes saw considerable use for book illustrations and many of the finest specimens of such work appear in the *Picture Gallery* and Thompson Cooper's *Men of Mark,* works published respectively in 1872 and 1886 by the British firm of Sampson Low and Company. In France the magnificent thirteen volume *Galerie Contemporaine* employed Woodburytypes for both portraits and reproductions of various works of art. This appeared in 1868 and following years.

In disposing of his rights to the Woodburytype process, Woodbury made the common mistake in those days of assigning the rights for an entire country to a single purchaser from that country. While this was probably necessitated because of the expensive equipment required, his own income from the patent was thereby reduced. Acting on this plan, rights for France were sold in 1867 to Goupil & Company of Paris.[4] The rights in Britain originally purchased

by Disderi & Company reverted to Woodbury because of a failure to pay the required fees. He established in January of 1869 the Photo Relief Printing Company, which was later (1878) taken over by the Woodbury Permanent Photographic Printing Company.[5] American rights were obtained in 1870 by the Chicago photographer, John Carbutt, who established a printing plant in Philadelphia.[6]

Adolphe Braun, Parisian photographer and art dealer, purchased Woodbury's process and equipment for his establishment in Dornach, Alsace. He sold his equipment when it was found that Swan's carbon procedure was better for large sized prints. Dr. J. M. Eder of the Graphische Lehr-und Versuchsanstalt at Vienna purchased the equipment,[7] and here it was eventually abandoned and the press was sold for scrap in 1929.

One of the disadvantages of the Woodburytype was its high cost; a situation that he tried to remedy by invention. Hence he introduced his *Stannotype* process in 1879. The term was derived from the Latin word for tin, "stannum" and used because tinfoil was a feature of the process.

A gelatin negative relief when faced with a layer of tinfoil was supposed to serve the purpose of a lead mold, thus doing away with the costly molding press. Otherwise the process was much the same.

Unfortunately the Stannotype was introduced at an inappropriate time and met with quick competition from the grain photogravure process devised by Karl Klič and introduced in 1877. The process achieved neither popular favor nor commercial success.

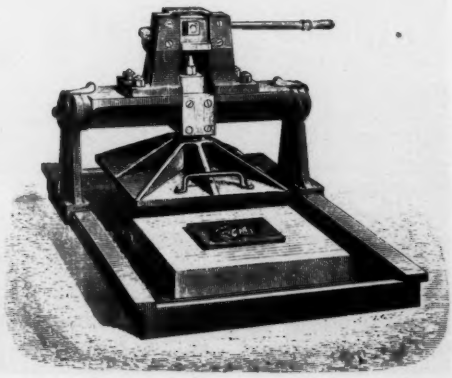
Woodbury was as active in writing for photography as he was inventing. His inventions in the graphic arts ranged from photoceramics to watermaking paper and an attempt at halftone reproduction.[8] Between the years 1863 to 1885 he took out some twenty British patents, including ideas for a musical railway signal! His writing was more to the point: he compiled the *Encyclopaedic Dictionary of Photography*,[9] authored *Photographic Amusements*, which ran through eleven editions in Britain and America between 1886 and 1937. Woodbury never lived to see his literary contributions published. He died at Margate, England on 5 September 1885.

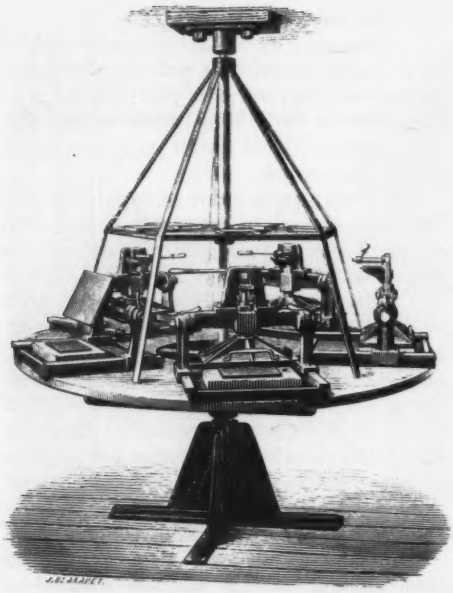
Woodbury died broke! Even though his Woodburytype process achieved tremendous success, his other inventions and patents must have drained all his profits. His financial situation became so desperate that a charitable campaign among photographers was instituted in his behalf a few months before his untimely death.

The campaign could not have been much of

The Woodburytype Paper Calender gave a special surface to the nonabsorbent paper used in the process.

The Woodburytype Press was specially designed and hand operated. The lead matrix was filled with warm gelatin, color impregnated, and covered with the special paper, then pressure applied in this press. The image was a kind of mold of the lead relief in reverse.

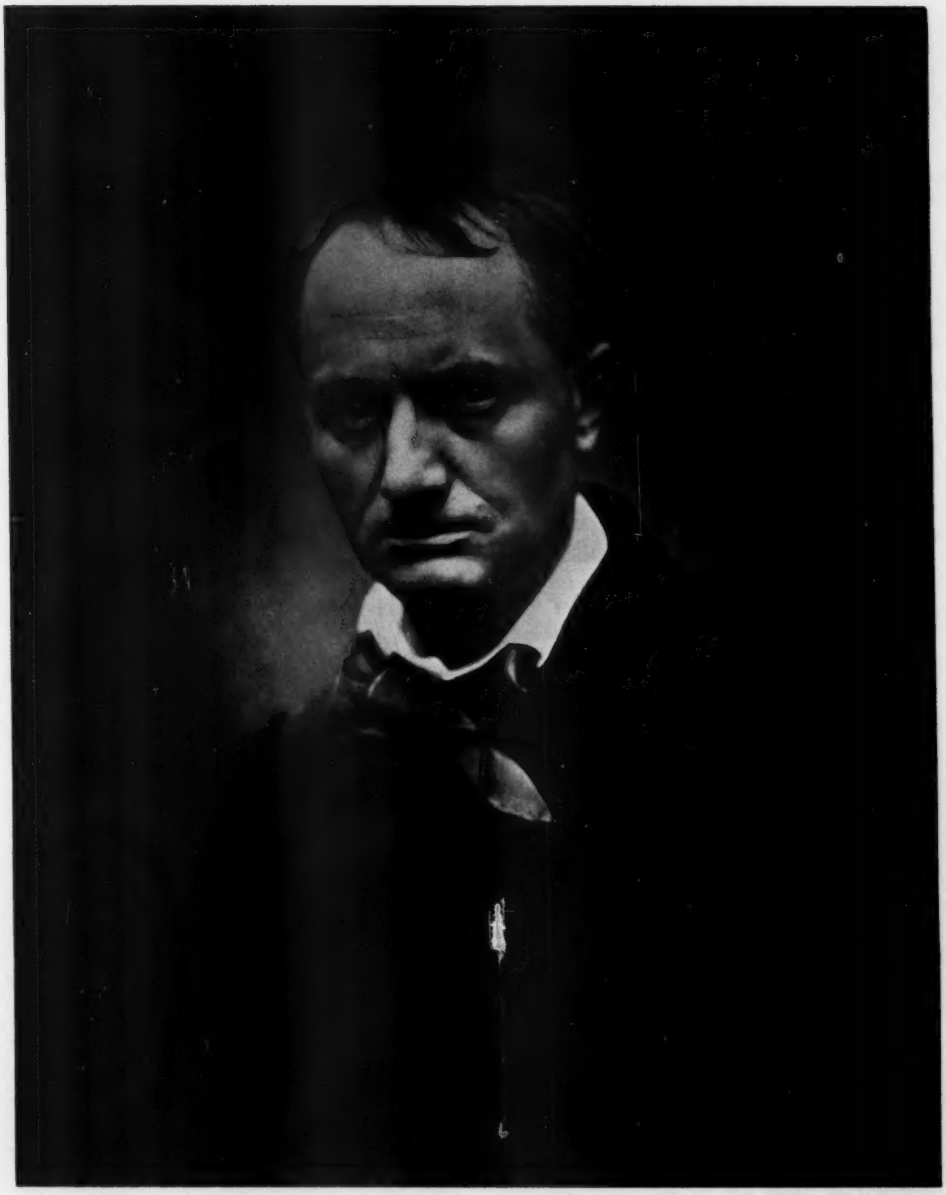




To speed production, five to seven of the small presses were grouped on a rotating table.

The Woodburytype installation of the Goupil Company (after re-erection from damage suffered during the Franco-Prussian war of 1870) as it existed in 1873 at Asnières, France. (This company was later known as Valadon, Boussod, Lemercier et Cie.) The arrangement of the tables full of small presses can be seen to the left.

Concerning production, Lemercier was said to have obtained 55,000 prints from a single mold. A run of 30,000 impressions of cartes-de-visite was claimed by the Woodbury Printing Co. (London) by the use of the rotating printing tables and recourse to the *photomezzotint* process of carbon printing patented in 1865 by Joseph Wilson Swan.



Charles Baudelaire by Carjat. From a 7½ x 9 inches Woodburytype from the Galerie Contemporaine. This was about as large as the process permitted. It is not possible to reproduce the real beauty and delicacy of a good Woodburytype—it must be personally observed to be appreciated!

Countess De Segur by Caret. Woodburytype by Goupil et Cie. Original in Galerie Contemporaine is 7½ x 9 inches.

a success because he died through what was likely suicide by an overdose of laudanum. A friend, the veteran American photographic editor, Edward L. Wilson,[10] charged that Woodbury was "murdered" by men who had robbed him of his rights to his inventions.

The insinuation was a familiar one in those days of "rugged individualism" but not always borne out by cold facts: Wilson himself had to admit that some of Woodbury's inventions did not meet the acid test of practical application. Woodbury was neither neglected nor ignored by the industry—he was awarded many honors and medals and had numerous opportunities for financial success. He seems to have been blessed with that common characteristic among inventors, the lack of foresight and business acumen.

If the Woodburytype process was so good and its results so superlative, why did it disappear from the graphic arts? The answer is simple: the halftone screen. Even though reproductions made by the halftone screen introduced by Max Levy in 1890 were inferior in photographic quality, they permitted illustrations that could be locked up in a typeform for simultaneous inking and printing with text matter.

Woodburytypes had to be made separately and then "tipped in" by hand. Imagine how long it would take to get out a single edition of a national magazine such as *Life* or *Look* if every illustration had to be pasted in by hand! What now comes out weekly would have to be an annual.

REFERENCES AND NOTES

1. For biographic data on Woodbury, see *British Journal of Photography*, 167, 597 (1885); *Philadelphia Photographer*, 144-145 (1885); Edward Epstean, *History of Photography*, 587-589 (1945); Helmut Gernsheim, *The History of Photography*, 277-279 (1955).
2. *Traité pratique de photoglyptie* (Gauthier-Villars), 246 pp (1881). A German translation by J. M. Eder, *Die Photoglyptie oder der Woodbury-Druck* (174 pp) was published in 1897 by Wilhelm Knapp.
3. *Encyclopaedic Dictionary of Photography*, 526-532 (1898).
4. Gaston Tissandier, *A History and Handbook of Photography*, translation by J. Thomson, 2nd ed. 221 (1878).
5. Henry Baden Pritchard, *The Photographic Studios of Europe*, 100 (1882).
6. *Philadelphia Photographer*, 40-41 (1870).
7. J. M. Eder, *Geschichte der Photographie*, 4th ed. 837 (1932).
8. *Gravure Magazine*, 23, May (1956).
9. First published (1890) by Iliffe in the form of a 755-page volume, and republished (1898) in America by Scovill and Adams.
10. *Philadelphia Photographer*, 369, November (1885).

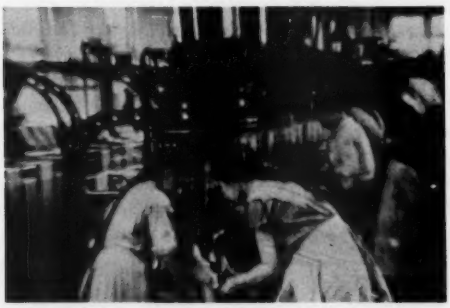
On Sitting For a Daguerreotype Portrait

"In the earliest days of photography it was required," says the Jury Report of the Great Exhibition, "that for a Daguerreotype portrait a person should sit without moving for twenty-five minutes in the glaring sunlight." We have not the pleasure of an intimacy with any one who ever performed this daring feat of salamanderism; but if the case was such as is represented, we are surprised that this twenty-five minutes' sitting was not made profitable to the Daguerreotypist by placing eggs beneath the sitter, and converting him into an Eccaleobion, or patent hatching machine.

Cuthbert Bede, *Photographic Pleasures*, London, 1855, p. 35.

THE CRY OF THE CHILDREN

1912. Produced in USA by Thanhouser. With Lila Chester, James Cruze and Marie Eline. 2 reels, 16mm positive.



Effective motion pictures on the subject of child labor made a major contribution to the social reforms that marked the first Wilson administration. *The Cry of the Children,* dramatized from the poem by Elizabeth Barrett Browning, is a particularly impressive example of the Thanhouser "reform" series called *Can Such Things Be?* The acting of Lila Chester and James Cruze as the mill-worker parents is restrained, sincere and convincing. Scenes of children working at dangerous high-speed machines, shot on location in a textile plant have all the apalling shock value of Hine's photographs.

FROM THE MANGER TO THE CROSS

1912. Produced in Egypt and Palestine by Kalem. Directed by Sidney Olcott. With Gene Gauntier, R. Henderson Bland, Alice Hollister and Robert Vignola. 5 reels, 16mm positive.

Throughout 1911 and 1912 the American Kalem Company sent a wandering production unit under the direction of Sidney Olcott to make films on location in Great Britain, Ireland, Germany and France. Olcott took his players to the Holy Land to make *From the Manger to the Cross* with Henderson Bland, a British officer, cast in the role of Christ. Amid ominous rumblings of clerical disapproval, the film was first shown near the end of 1912 to a group of churchmen. So splendid was the deportment of Mr. Bland and so reverent and moving the entire tone of the production, that the picture was released with the blessing of those who had previewed. Its success contributed to the advent of the multiple-reel feature. Today, after forty-five years of far more elaborate motion pictures, *From the Manger to the Cross* is still in circulation, still playing church engagements. One memorable shot shows us the Holy Family resting in the desert during Their flight from Egypt. In the background towers the Sphinx, the paws still uncovered by the archeologists who were still to come and sweep away the centuries of sand.

TIGRIS

1912. Produced in Turin, Italy by Itala. Directed by Denisot. With Lidia Quaranta, Edoardo Davesnes, Alessandro Bernard. 4 reels, 35mm positive.

Tigris belongs to the popular cycle of master criminal versus master detective movies that were being so prolifically produced in France, Italy and Germany at this period. *Tigris* boasted several features which separated it from its many companion pieces. In one sequence the detective is drugged by the adventuress accomplice of the villain. In a brilliant series of impressionistic scenes many of the effects that distinguished the German cinema of the late twenties were briefly and casually employed. In *Tigris,* multiple disguises and lightning changes were the order of the day; the hunted and the hunter changed appearance so rapidly one was never sure whether or not the pursuer was actually the quarry. *Tigris* reached the United States in 1913 where it was billed as being "better than Fantomas."

CITY SCENE; location not known. Daguerreotype, 10.5 x 13.5 cm. Maker not known, about 1850. (Neg. No. 4072)

The only clue to the identification of this excellent city view is the note "First Presbyterian Church" written in contemporary hand on the back of this daguerreotype.

GOLD MINING IN CALIFORNIA. Daguerreotype, 10.5 x 13.5 cm.; maker not known; about 1851. (Neg. No. 4068)

The California gold rush was documented by daguerreotypists in detail, and a surprisingly large number of their productions have come down to us. We do not know who took this plate, which shows an unassembled "Long Tom" in the foreground and the cradle-type washing device in the center field. It is tempting to ascribe the daguerreotype to R. H. Vance, who traveled up and down the California coast. In 1851 he put on exhibition in New York City a collection of over three hundred daguerreotypes he had taken. "On looking upon these pictures," wrote the editor of the Photographic Art Journal *in the October, 1851, issue, "one can imagine himself among the hills and mines of California, grasping at the glittering gold that lies before him; wandering over the plains, along the beautiful rivers that flow into the California gulf, or through the streets of San Francisco, Sacramento, and Monterey." Vance sold them to Jeremiah Gurney, a New York daguerreotypist who, in turn, sold them to John H. Fitzgibbon of St. Louis. Since then the whereabouts of this priceless collection has been a mystery. Presumably they were in a fire in Fitzgibbon's gallery.*

FARMHOUSE. Daguerreotype, 8 x 10.5 cm. Maker not known, about 1850. (Neg. No. 4070)

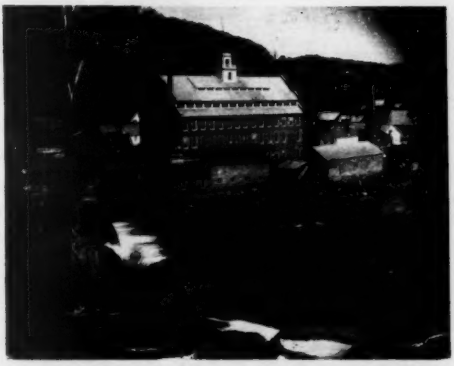
The informality of this daguerreotype is unusual. One small boy holds a wheelbarrow. Another is sitting on the lean-to roof of the shed. Perhaps the young lady standing by the buggy is their sister.

GROUP AT NIAGARA FALLS. Daguerreotype, 13 x 18 cm.; probably taken by Platt D. Babbitt about 1855. (Neg. No. 4076)

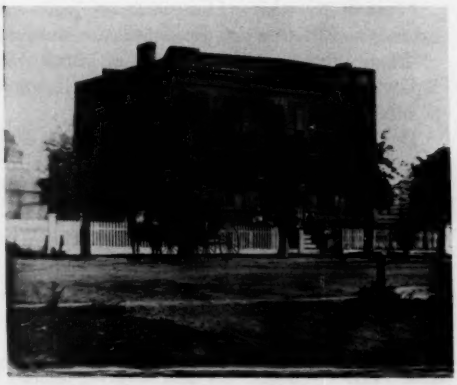
In 1853 Platt D. Babbitt set up a camera permanently at a choice vantage point looking over the American Falls. Over the camera he built a pavilion, to protect it from the weather. When visitors grouped themselves unknowingly in front of his camera, he made an exposure, quickly processed it, and had a likeness ready for sale in minutes. To judge from the quantities of pictures identical—except for the tourists—to the one illustrated above, Mr. Babbitt must have done a very good business. He kept up with the times: when the daguerreotype became obsolete he made ambrotypes and, later, stereographs both on paper and on glass.

J. M. THOMPSON, builder and proprietor of the Glen House, first of the large White Mountain hotels in New Hampshire. Daguerreotype, 10.5 x 13.5 cm. Maker not known; taken in Portland, Me., about 1850. Gift of Edmund H. Royce. (Neg. No. 733)

FARM BUILDING, location not known. Daguerreotype, 10.5 x 13.5 cm.; maker not known. (Neg. No. 4073)



A NEW ENGLAND MILL. Daguerreotype, 10.5 x 13.5 cm. Maker not known, about 1855. Boyer coll. (Neg. No. 4069)



HOUSE, location not known. Daguerreotype, 16.5 x 21.5 cm. Maker not known; about 1850. (Neg. No. 4100)

By far the majority of existing daguerreotypes are portraits. Outdoor scenes are rare. This may be due to the fact that city views and landscapes were used as models for engravings or lithographs, and were probably cast aside after they had served their purpose.

The daguerreotype process produced a mirror image. For portraiture this was inconsequential. It was even an advantage, for the sitter knew his face only as he saw it in a mirror. To reverse the image, a prism or a mirror was put in front of the lens.

BOOK REVIEWS

COLLECTOR'S GUIDE TO AMERICAN PHOTOGRAPHY by Louis Walton Sipley. Philadelphia, American Museum of Photography, 1957. 40 pages, illustrated. Paper, $1.50, cloth, with two color plates, $3.00.

The beginning collector usually finds the field of early photography troublesome or confusing, and until the *Collector's Guide to American Photography* was published nothing handy on the subject existed. The guide outlines the various periods and describes in some detail the kinds of equipment in use. Hence cameras, darkroom equipment, accessories and such equipment as magic lanterns, stereopticons and their associated articles are discussed and pictured. The section on early publications, magazines, books and pamphlets is most helpful. Dr. Sipley makes a point of telling how to distinguish a Daguerreotype from an Ambrotype and both from a Tintype. Furthermore the collector is advised on the subject of which photographers are worth collecting.

Most of the items illustrated are from the extensive collections of the American Museum of Photography in Philadelphia of which Dr. Sipley is director. In some instances the location of other important collections is given.

Dr. Sipley points out in his introduction that the guide may help the occasional discoverer of old portraits and old lenses determine the relative worth of his finds. Rare indeed is the old photograph or old piece of equipment that will bring a high price.

MINOR WHITE

NEW YORK by William Klein. London, Photography Magazine, 1957. 195 pages, 189 illust. Captions separate.

Raucous is the word for William Klein's *New York*. Sensational in the worst sense of that word; still after the cacophonous din gets out of your eyes, the pictures resemble memories of what one has seen in the big, bad city. And after one stops feeling sorry for the poor scientists who slave, sweat, and die to make photographic materials that yield continuous tone, beautiful continuous tone, the book begins to look exciting. It may even be truthful in a narrow vein.

The book is down to earth literally. It proves, however, that the "ain't it a shame" school has changed. It is not shameful any more, but bawdy, gaudy and tawdry. People squirm through the book like Gustav Dore's illustrations of the Inferno. But Dante's Inferno here is only a pile of angleworms loving the rut. Animal living is photographed full tide with barely a moment of lyricism, none of beauty, and tragedy only a match struck on the seat of the pants.

There is no point selecting a few favorites; if one does one misses the violence of contrasts. If one stops to decide which pictures are good and which bad, the turmoil of pulsating life is not experienced. And if that is lost, the rest is nothing.

How illuminating it would be if we could listen to Lewis W. Hine comment on this book. He might well think that the people found in Klein's New York were not worth his lifetime of reformist efforts. He might regret his life spent trying to improve living conditions thereby hoping to improve people. He had a love for people. By comparison Klein loves only the excitement of riding high on the shoulders of the vulgar, noisy throng.

Though similarities exist, Klein's book is not a sociological document such as Hine's Ellis Island. A different age, a different period is only part of the difference. Actually Klein did not photograph a city; he matched with cheap sensational photography the vulgarity of life in all its ugliness.

As Bernard Berenson, eminent art critic, would object, this book has no "life enhancing" qualities.

MINOR WHITE

THE NEW LANDSCAPE in Art and Science by Gyorgy Kepes. Chicago, Paul Theobald and Co., 1956. 383 pp, 453 illusts. $15.50.

In *The New Landscape in Art and Science* many exhilarating contrasts and comparisons greet the reader. Photographs at the focal planes of telescopes and microscopes are only the most obvious. A photograph of a network nebula millions of light years away compared to one of a complex molecule magnified 200,000,000 times is almost commonplace. Compared to these the juxtaposition of the photograph of a chick embryo with an aerial photograph of land in the Middle West is a profound jolt. The similarities are shocking. The startled reaction that this and other combinations produce forms some idea of what Kepes is driving at.

Kepes explains that the natural world is common to us all, artist and scientist, brain-man and muscle-man, layman and expert. This was true

until recently when the scientist began to look deeper than we can with unaided eyes. He has lately enlarged the natural world to such an extent that to most men the natural world has become uncommon. He has been introduced to new textures, new sounds, new sights, in short, a "new landscape."

But this landscape has not yet reached many people. The artist lives in his world, the scientist in his, and the latter aided by instruments is closer to the new landscape than anyone else. In the interests of people at large "domesticating the invisible" is necessary. Kepes feels that a certain kind of person will be able to do this. "It will not be the artist alone, or the scientist alone, but those who will assimilate with the scientist's brain, the poet's heart, the painter's eye."

According to Kepes the very structure of the book itself is an echo of the kind of fusion that must take place before people can live with all the knowledge around them. Hence visual images are combined with verbal communications (pictures and words) to bring them together. The pictures come mainly from the discoveries of science, but often the juxtaposition of a scientific picture with a reproduction of a painting brings about a new concept in the visual world. For instance the photograph of a flash of alternating current and one of drops of ink in water are seen beside a copy of a Japanese painting about a waterfall. Suddenly you realize that the painter had painted what could not be seen. The very curves of ink curling in water are present in the painting; the same display of form as seen in the electrical flash. Was the painter so steeped in the scene before him that he half understood the invisible? Such proof that a fine painter can turn himself into what he paints has rarely been afforded to those who do not paint themselves.

The various quotes included have been gathered widely in both time and space. Brilliant statements from all around the world and from Plato to Bergson are mixed with short essays by contemporaries. These last are as diversified as mathematician Norbert Weiner, architect Richard Neutra, art historian Siegfried Giedion, painter Jean Arp. It is a clue to the Kepes thinking when he writes that "the words are illustrations to the pictures."

MINOR WHITE

CURRENT HISTORY

SNAPSHOTS BY MOONLIGHT

Experimental films have been developed that are one hundred times more sensitive than those of seventy-five years ago. Snapshots by moonlight at 1/10 of a second at $f/1.3$ are in the foreseeable future.

PREDICTIONS

By 1960 cameras will use electronics to adjust lens, cock the shutter and wind the film, a photographic manufacturer recently predicted. Motion pictures will be made on magnetic tape to be played back through television receivers. Irving Wolff of RCA expects an electronic color photography system that will provide permanent prints of pictures taken less than five seconds earlier at points thousands of miles away.

PICTURES BY RADIO

The Army has announced its newest facsimile set. A special camera gets the picture in one minute; the print is inserted into a picture sending radio. The time of exposure to commanders miles away at headquarters is five minutes flat. Newspapers can avail themselves of this new service.

MONOBATH: TIME 5 SECONDS

"The basic problem in a monobath is a race between developer and fixer in the single bath. The developing activity must change as many exposed crystals into silver as possible before they are entirely removed by the fixer."

Harry S. Keelan of Boston University's research laboratories reported this ultra rapid prospect to the American Chemical Society meeting in Miami.

PHOTOGRAPHIC IMAGES WITHOUT CHEMICALS

A photographic black and white process requiring no chemicals has been announced. In far less than the customary time the image is fixed and developed by heat. Both shelf life in storage and image permanence are claimed to be superior to conventional photographic materials. Sensitivity may be tailored to permit handling of film and paper in daylight where desired. The system works by photographic production of light scattering centers in its surface structure, rather than light absorbing grains as in conventional photographic systems. *(Photographic Trade News,* New York, May 1957, p. 60.)

GEORGE EASTMAN HOUSE ASSOCIATES CALENDAR

Exhibitions in the Dryden Gallery

September 6–November 4

AMERICA IN DAGUERREOTYPES
Enlarged copies of daguerreotypes from collections all over the country, plus originals from the George Eastman House collection, presenting a vivid panorama of life in America from 1840-1860

NEWS PICTURES OF THE YEAR
A special exhibition organized by the National Press Photographers Association and the Encyclopaedia Britannica

Associates Travelogues—Dryden Theatre

September 16, at 8:30 P.M.

THE CARIBBEAN by Fritz Henle

October 14, at 8:30 P.M.

WEST GERMANY TODAY by Donald Welles

Exhibitions in the Study Room

September 1957

PHOTOGRAPHS by Don Worth of San Francisco

October 1957

THEY COME ALIVE AGAIN and VISION OF THE TIMES
Two portfolios of photographs by the Hungarian photographer Vilem Kriz

November 1957

PHOTOGRAPHS by Susan Sherman of New York

Associates Film Program—Dryden Theatre

September 21, at 8:30 P.M.

ONE HUNDRED MEN AND A GIRL, 1937, with Deanna Durbin and Leopold Stokowski

October 19, at 8:30 P.M.

OLD IRONSIDES, 1928, with George Bancroft, Esther Ralston and Charles Farrell

THE DRYDEN THEATER OF THE GEORGE EASTMAN HOUSE